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**POLITICAL BUDGET CYCLES OR VOTERS AS FISCAL
CONSERVATIVES?
EVIDENCE FROM COLOMBIA**

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Abstract

Theoretical models of the political budget cycle suggest that electoral manipulation of government expenditures can take the form of changes in the composition of spending, without impacting the overall budget or the deficit, and that the form and extent of this manipulation depend on the fiscal preferences of voters. In this paper, I use data on government expenditures and election outcomes in Colombia to provide an integrated analysis of voting behavior and the preelectoral dynamics of government spending. I emphasize potential changes in the composition, rather than the size, of the budget. I find that components of the budget that can be identified with targeted spending grow, and that non-targeted spending contracts, in the year preceding an election. Consistently, I find that voters reward the preelection increases in targeted spending, but punish incumbents who run high deficits before the election.

Key words: Political Budget Cycle, Elections, Colombia, Local Budgets and Expenditures

JEL Classification: D72, E62, D78, H72

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1 Introduction

Common wisdom is that, as elections approach, elected officials increase government spending to improve the chances that they or their parties will be reelected. Reports of pork spending growing in election years are common, and the public seems to expect popular spending projects when elections are imminent. For economists, however, the debate about the existence, extent and characteristics of this manipulation is hardly settled. Among the many sticky points, there are inconsistencies between the idea of pre-electoral increases in the government's budget and both the actual dynamics of government spending and the behavior of voters. First, evidence of election-year increases in government spending and the deficit is at best mixed. Second, increases of the size of the budget seem to hurt, rather than improve, an incumbent's chances of being re-elected.

Partly motivated by this empirical evidence, the models introduced in Drazen and Eslava (2004a, 2004b) present a view where Political Budget Cycles (PBC) take the form of a change in the composition, rather than the size, of government spending. Before elections, specific groups of voters are targeted with spending, while non-targeted types of expenditure contract to avoid having the increase in targeted spending result in higher deficits. These targeted pre-electoral transfers are designed by the incumbent to signal preference for certain, politically attractive, groups of voters. Although a fixed deficit is exogenously imposed in that model, behind this assumption is the idea that voters dislike deficits, even though they like receiving goods specifically targeted to them¹.

Rogoff (1990) also presents a model of PBC where electoral manipulation can be reflected in a change in the composition of the budget. In his model, voters have a preference toward high aggregate levels of spending, but can only observe part of the public goods provided by the government. Incumbents then have incentives to increase the provision of visible public goods before the election, possibly at the expense of other, less visible, types of spending. This is done to signal high ability of the incumbent to provide

¹In Drazen and Eslava's models, incumbents have incentives to manipulate fiscal policy *before* the election, even though voters are fully rational and forward looking. Voters are assumed to possess only limited information about the fiscal preferences of the incumbent. Given this assumption, they react to past fiscal policy because it provides information about the amount of targeted expenditure the incumbent will provide in the future if re-elected.

elevated overall levels of public goods.

Both views of electoral cycles suggest that empirical analyses of the PBC that focus solely on the dynamics of the overall budget –as is the case in most of the literature– are at risk of misinterpreting the evidence, besides missing an important part of the action. For one, electoral manipulation of government expenditures may occur without impacting the overall budget or the deficit. Moreover, the effect of elections on the dynamics of government spending is inextricably linked to the preferences of voters and their ability to observe the fiscal choices of the government. These preferences and sets of information may vary from country to country, and learning about them is crucial for an adequate interpretation of the evolution of the budget around election times. Do voters like or dislike large budgets? Do they have preferences for specific types of spending over others? Put simply, even contractions of government expenditure before elections may be consistent with electoral incentives, if they are what the preferences of voters dictate.

In this paper, I use data on government expenditures and electoral outcomes in Colombia to examine the characteristics of PBCs, in terms of both voting behavior and government spending². I ask whether election outcomes are consistent with voters having different preferences toward different types of government expenditure. From the point of view of policy, meanwhile, I look at evidence on pre-electoral changes of government expenditures. Special emphasis is put on the separate analysis of different types of government expenditure, since both the popular Rogoff (1990) model and the models introduced in Drazen and Eslava (2004a, 2004b) suggest the potential importance of composition effects. I finally tackle the question of whether the extent of electoral effects on fiscal policy depends on the degree of party polarization among voters.

This paper is organized as follows. I begin by discussing some relevant empirical literature in section 2. Section 3 comments on some interesting features of the Colombian case, to motivate the focus on this country. The pre-electoral dynamics of government spending are analyzed in section 4, while section 5 studies the effect of fiscal behavior on election outcomes. While the other empirical sections focus on Colombian municipalities, some evidence at the central government level is introduced in section 6. Finally, section 7 provides some concluding remarks.

²This paper focuses solely on the electoral manipulation of government expenditures, without dealing with potential electoral cycles in the revenue side.

2 A discussion of previous empirical literature

Two bodies of past empirical work are relevant for the questions I address in this paper: literature on fiscal preferences of voters, and literature on the dynamics of fiscal policy around election times.

The first of these branches of work examines how fiscal policy affects the incumbent's chances of being reelected. Brender (2003) uses data on the elections of local mayors in Israel, and finds that voters penalize election year increases in deficits, although they reward high expenditure in development projects. Peltzman (1992) shows that, in the US, the share of votes received by the incumbent's party is decreasing in government current (as opposed to capital) expenditures. This result, however, loses power if investment in roads, an important component of public investment, is included in the policy variable³. For OECD countries, Alesina, Perotti, and Tavares (1998) find that governments that adopt tight fiscal policies do not suffer falls in popularity and are not penalized by voters in the polls. In short, this literature suggests that elected officials do not receive electoral benefits from boosting spending before elections. If anything, the opposite seems true. Not all types of government spending generate the same opposition, however: some development projects actually appear to increase political support for the incumbent.

A second group of relevant empirical papers examines the dynamics of fiscal policy, looking for systematic changes that coincide with election times. The most comprehensive studies are those by Schuknecht (1994), Shi and Svensson (2000), Persson and Tabellini (2002), and Brender and Drazen (2003), all of which undertake studies for large samples of countries. Except for Schuknecht's paper, this work focuses solely on aggregate measures of fiscal policy⁴: total spending⁵, tax revenue, and deficits.

³The author interprets the "odd findings" obtained when including expenditure in roads as a result of the high lumpiness of this component. An alternative interpretation, consistent with the models of Eslava and Drazen (2004a, 2004b), is that roads are clearly targeted public goods and voters react favorably to being targeted by the incumbent.

⁴Persson and Tabellini (2002) also include a more disaggregate component of spending, given by welfare programs, but do not contrast with other categories of spending.

⁵The measure of spending used in Shi and Svensson's paper is actually government consumption spending from national accounts. I find results with this measure difficult to interpret as it includes different levels of government (local, national, publicly owned

Results in Schuknecht (1994) and Shi and Svensson (2000) point at pre-electoral deteriorations of fiscal balances and increases of public expenditures in developing countries. Later results, however, are not so favorable to the existence of electoral cycles in total government spending. Persson and Tabellini's (2002) results show no pre-electoral change of government expenditure or surplus for their overall sample, and an electoral *contraction* of spending in countries with majoritarian systems. Meanwhile, Brender and Drazen (2003) show that Shi and Svensson's finding of PBCs in total spending is driven solely by new democracies: there is no evidence of electoral manipulation in countries with a long history of democratic institutions. They argue that fiscal cycles in new democracies reflect underdeveloped media and poor accounting practices. In sum, the evidence in favor of pre-electoral increases in total government spending and government deficits is, at best, mixed. Furthermore, it seems that politicians only engage in spending hikes when voters cannot effectively monitor government balances, a behavior that is consistent with voters being opposed to raising overall spending.

In terms of the composition of expenditures, Schuknecht(1994) finds that, prior to elections, capital expenditures rise as a share of both GDP and overall expenditure in his sample of 35 developing countries. Kneebone and McKenzie (2001) find no pre-electoral increases in aggregate spending for Canadian provinces, but do find that spending in social services, industrial development, and health actually contract before elections. Very similar findings are reported for Mexico by M. González (2001), who also finds that other categories of spending, such as current transfers, contract prior to elections. In short, pre-electoral manipulation of the budget is concentrated in some specific categories of government spending. For the countries covered in these studies, it would appear that capital expenditures are seen by politicians as an effective way to impress voters, and that officials attempt to take advantage of this fact⁶. Moreover, officials seem to find ways to increase these expenditures prior to elections without increasing overall spending, thus avoiding being penalized by voters who are fiscal conservatives.

The picture that emerges from this findings is far from supportive of the widespread idea that officials expand government expenditure prior to elec-

enterprises), which should respond to different types of elections and in different ways.

⁶Alesina et al. (1998) assert that "cuts in public investment are less visible and [politically] costly [than cuts in other spending] ", but provide no evidence that this is the case. The evidence just discussed, as well as the results I present in this paper, point in the opposite direction, at least for the countries covered by these studies.

tions. While voters seem to penalize such increases, there is no robust evidence that overall spending is manipulated in this way. However, expenditure increases are actually observed for some types of spending. An important contribution of this paper is to put these apparently contradictory pieces together and show how they can be reconciled. In contrast to previous work, I analyze both voting behavior and the dynamics of government budgets as two parts of the same problem, and focus on the idea that not all types of government spending should be treated equally in this analysis. This paper also proposes that some specific components of the government accounts are more likely than others to reflect types of expenditure that generate large effects in electoral support. In that spirit, another contribution of this paper is a systematic analysis of differential effects of elections on the various components of overall public spending.

3 The Colombian case

Colombia offers an interesting case for the study of these issues, as an example of a developing economy with a relatively well established democracy⁷. While part of the literature has argued that electoral cycles in the overall budget are a phenomenon of developing countries, Brender and Drazen (2004) show that the key distinction is not between developed and developing economies, but between established and new democracies. Thus, although the traditional view would predict pre-election hikes of government spending in a country like Colombia, Brender and Drazen’s argument would suggest otherwise.

Even though I do present some evidence on the central government’s budget, the main focus in this paper is on spending behavior by local governments. I choose this “cross-district” approach, rather than the more usual cross-country strategy for two reasons. First, the PBC models of Drazen and Eslava (2004a, 2004b) suggest the importance of distinguishing between targeted and non-targeted types of expenditure. This distinction is most relevant at the local level, where expenses can be targeted most efficiently.

⁷The statement that Colombia is a “well established democracy” may be puzzling for the reader, in view of the intense armed conflict that has bled the country for years. However, from the point of the institutional regime, Colombia has enjoyed the rule of democracy practically without interruption since the 19th century. This is not a minor achievement in the Latin American context, where most countries went through long and painful periods under the rule of dictators, even in the last decades of the 20th century.

Second, the view in this paper is that the fiscal preferences of voters play a key role in determining the PBC. This creates the potential for widely different forms of electoral budget manipulations from country to country, and suggests the convenience of limiting the analysis to a single country, where general features of the political system that are difficult to control for do not vary⁸.

I should point that, although in Colombia the direct reelection of incumbent executive officials is banned, pre-electoral manipulation of fiscal finances is regarded as a usual political practice. PBCs are thought to arise in Colombia largely due to the actions of the legislative bodies, whose members are in fact subject to direct re-election (in the case of city councils), or at least have found ways to circumvent formal restrictions to run for direct re-election (as in the national Congress). There are also reasons why even an incumbent mayor, who cannot run for re-election immediately, would want to manipulate fiscal policy at the end of his period in office. Most importantly, voters identify the preferences of the official with those of his party or his designated candidate, and therefore the policy decisions of an official are interpreted as signals of party preferences and competence. Hence, the incumbent knows that his decisions affect his party's re-election chances (or those of his preferred candidate).

4 The electoral dynamics of government spending

In this section, I analyze evidence of pre-electoral manipulation of public spending in Colombian municipalities, with special emphasis on contrasting different types of expenditure. In particular, the models introduced in Drazen and Eslava (2004a, 2004b) suggest important differences between targeted expenditures and other components of the budget. I try to unveil such differences using the disaggregate components of government accounts.

Following much of the literature, I estimate equations in which the policy variables are represented as functions of the timing of elections, as well as other controls. The basic relationship can be written as:

⁸Note that the within-country strategy does not wipe out the sources of variation in the institutional environment that are necessary to identify key characteristics of the PBC; in particular, the degree of ideological commitment to one or other party does exhibit wide variation across districts of the same country.

$$y_{it} = a_i + b_1 * y_{it-1} + b_2 * y_{it-2} + \sum_k c_k * x_{k,it} + d * elec dum_{it} + \varepsilon_{it} \quad (1)$$

where i is an index for districts, y_{it} is (the log of) some specific type of spending by the local government of city i in period t , a_i is a district effect, and the x are control variables (indexed by k to allow the use of more than one control). The variable *elec dum* is a political dummy that captures the timing of elections, and it is the center of the analysis. It takes a value of 1 in periods preceding local elections, and 0 in all other periods.

The autoregressive form is used in the literature on political cycles as a parsimonious representation of the policy choices, given the lack of elements to incorporate a fully structural model of fiscal policy. However, I also include additional controls to account for as much variability in the data as I can. I estimate a separate regression for each type of government expenditure (that is, each type of government expenditure is a different y). In all regressions, the main interest is d , the coefficient that captures the effect of elections.

The traditional view in empirical studies of political budget cycles is that we should observe pre-electoral increases in overall spending and at least some of its disaggregate categories ($d > 0$ for at least some y 's, $d < 0$ for no category). Most empirical studies have focused on this hypothesis. Theoretical models discussed above, however, suggest the possibility that the PBC takes the form of a pre-electoral change in the *composition* of the budget. In particular, Drazen and Eslava (2004a, 2004b) suggest that government resources are shifted away from non-targeted spending and into targeted projects ($d > 0$ for targeted spending, $d < 0$ for some other categories). A systematic analysis of the effects on different categories of spending may help to shed some light on the empirical validity of this idea.

A classification of government expenditure into targeted and non-targeted expenses is not readily available, or straightforward. In fact, all government expenses (probably with the exception of interest payments on external debt) generate benefits for at least some groups in society, even if it is only to those individuals who provide the services and goods to the government. However, my view is that some of the components of expenditure that governments report separately, in particular most categories of investment expenditures, are more likely than others to reflect targeted expenses.

Opportunistic targeted expenditures, close to the familiar concept of *pork barrel* spending, are most often associated with projects of infrastructure de-

velopment: construction of roads, schools, water plants. These are highly visible expenditures that benefit specific (yet potentially large) groups of voters. On the other hand, some current expenditures, such as purchases of supplies and services or payments to other governmental entities, as well as interest payments, can be presumably cut without visibly hurting large groups of voters. Under this interpretation, data that separates current government spending from expenditures linked to development projects could fit the need for distinguishing targeted from non-targeted expenditures⁹. The theory of electoral changes in the composition of the budget is seen here as consistent with some components of current spending contracting prior to elections, with a simultaneous expansion of categories related to development projects¹⁰.

4.1 Data

The data consist of annual observations for each Colombian municipality (close to 1100 cross-sectional units) for the period 1987-2000, as municipal

⁹It is important to highlight that, consistent with my view that PBC's take different forms in different countries depending on the preferences of voters, I do not claim that the correspondence between investment components and targeted spending should apply for all countries. I believe this is an appropriate classification for the Colombian case, and part of the empirical literature discussed above seems to suggest it is also applicable for other cases. What I do postulate as a more general feature is that there are specific components of the government accounts that can be identified with the public goods voters are more interested in.

I use a panel of yearly data on government accounts for all municipalities in Colombia over the 1984-2000 period. Expenditures are reported at a relatively high level of detail, allowing me to discern the behavior of different types of spending.

¹⁰This statement may seem conflicting with Rogoff's (1990) paper, where visible spending (the category that expands before elections) is called government "consumption", while the less visible good, which the author links to as spending in national defense and financial activities, is referred to as "government investment". When taking the model to the data, however, the author's use of words may be misleading, at least for some countries. In the Colombian case, less visible expenditures such as defense, payments to pensioned employees, and office supplies are all recorded under the consumption or "current spending" categories. Highly visible types of projects, like the construction of bridges, schools, and water plants, are all under the "investment" heading. The multi-period character of these projects raises a question about whether politicians are able to time them so that voters observe them before the election. Common wisdom, the existing empirical evidence, and the evidence I present here all seem to suggest that they are.

officials have been elected by popular vote only since 1988¹¹. Of the 16 years in the sample, 6 are local election years, when mayors and city councils are elected¹². Elections occur at predetermined dates, and all cities hold elections the same day. A "pre-election period" (that in which the election dummy is 1) is the year previous to the election if the election takes place in the first semester, and the year of the election if the election is held in the second semester.

The data on government spending come from the Colombian *Contraloría General*, a public entity with the task of monitoring public finances. Since the use of these data is a novel feature of this paper, I will discuss features of the database in some detail. The financial report a local government files with the *Contraloría* contains a detailed description of its revenues and expenditures, so that disaggregate measures are available. The general structure of the expenditure accounts available is summarized in the first column of Table 1. Besides the categories listed in Table 1, I also examine investment in roads, which is a subcomponent of infrastructure investment¹³, and some subcomponents of personnel payments and current transfers. Development projects show up mostly in the investment categories. Given the discussion above, I associate these categories with targeted expenditures.

Table 1 also presents summary statistics for the different categories of spending I analyze.¹⁴ For each type of expenditure, the first row refers to the overall period, the second row to pre-electoral periods, and the third row to other periods. All measures are in hundreds of thousands of 1998 prices. Most current expenditure categories display lower averages in pre-electoral periods than in other periods, while the opposite is true for most investment categories, in particular those associated with the development of infrastruc-

¹¹Data for previous years, however, are available. This allows me to use lags of the variables as instruments, and run the regressions in differences, without losing observations (see explanation of the estimation strategy below).

¹²Mayors and councils are elected simultaneously. A list of the local elections held in the 1988-2000 period is presented in the appendix.

¹³"Infrastructure" includes the construction of roads, urban infrastructure, and construction of market places.

¹⁴I use all the available information. Current expenditure and its broader subcategories, as well as total investment, are available for more than 90% of the districts in years prior to 1997, and for close to 80% of the districts after that. The disaggregation of investment is only available since 1990. When disaggregations are reported, I check for consistency between more aggregate categories and their subcategories, and discard observations with inconsistencies (less than 1%).

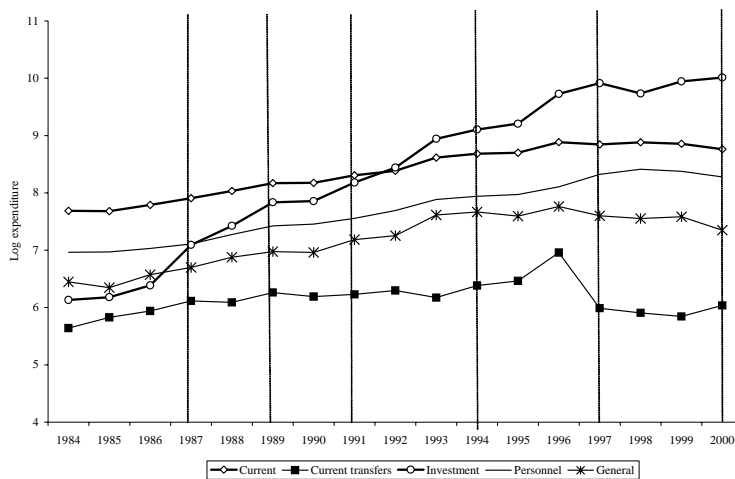


Figure 1: Evolution of spending: broad categories

ture (infrastructure, water and energy, housing). These observations suggest pre-electoral changes in the composition of spending, in directions consistent with the predictions of both the Rogoff (1990) model and the budget composition model of Drazen and Eslava (2004b). A more formal analysis is undertaken in the following section.

The dynamics of different categories of government spending can be seen in Figures 1 and 2. The former contrasts current spending, and its sub-components, with investment. The latter shows the different categories of investment, for the period in which disaggregated data are available (1990-2000). Vertical lines indicate pre-election years, as defined by the variable *elec dum*. Note, in particular, peaks in pre-election periods for infrastructure, road construction, housing, and investment in energy and water plants.

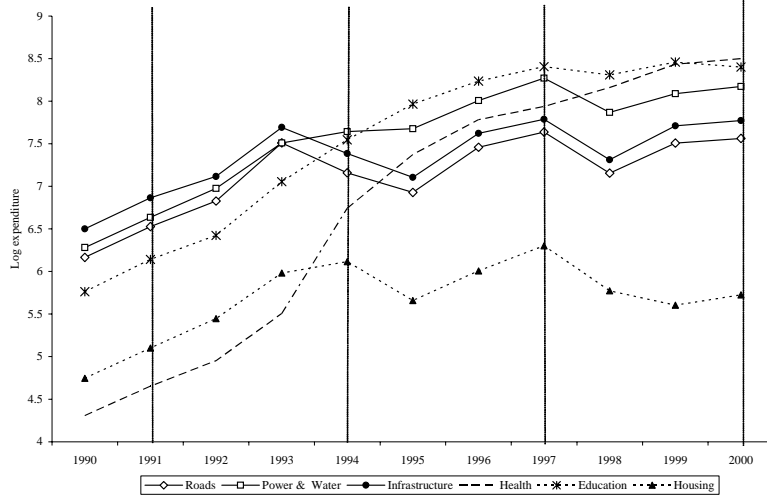


Figure 2: Evolution of spending: investment categories

Table 2 lists the different control variables I use in alternative specifications. Each specification uses a different set of controls, to check the robustness of results. Specification (1) includes the log of state per capita GDP to control for economic activity (GDP_PC), a quadratic time trend (T), and some social indicators that could be used as inputs in fiscal policy decisions. The latter include the log of population and the log of a poverty indicator known as Unsatisfied Basic Needs (UBN). Specifications (2) and (3) use alternative financial indicators, trying to account for financial constraints faced by local governments. These constraints are particularly important in later years, when the law has required that local governments in Colombia obtain authorization from the central level to increase the size of their budgets if they have been running deficits in previous years. I use previous year's Deficit, previous year's Debt, and Fiscal Dependence indicators, all constructed from the Contraloría data, to control for these financial constraints¹⁵. Finally, in specification (4) I include Incumbent Advantage, measured by the percent-

¹⁵The Fiscal Dependence indicator, included in both specification (2) and (3), accounts for the level of fiscal decentralization in the country, which grew dramatically over this period. It is increasing in the share of revenues represented by transfers from the central government (as opposed to the local government's own fiscal effort).

age share of votes received by the incumbent official in the last election. I try to account in this way for the greater degrees of freedom that a popular incumbent has when choosing fiscal policy. The appendix provides sources and more details on how these controls were generated.

4.2 Estimation strategy

When estimating 1, the following sequential moment restrictions, which correspond to common assumptions in panel data studies, are assumed about the error term:

$$E(\varepsilon_{it}y_{it-s}) = 0 \text{ for all } t \text{ and for } s \geq 1 \quad (2)$$

$$E(\varepsilon_{it}elec dum_{iv}) = 0 \text{ for all } v, t \quad (3)$$

and

$$E(\varepsilon_{it}x_{it-w}) = 0 \text{ for all } t \text{ and for } w \geq \bar{w} \quad (4)$$

where $\bar{w} = 0$ for control variables assumed not contemporaneously correlated with the error term (incumbent advantage, the time trend, previous year's deficit and debt, and the fiscal dependence indicator, given that it is an aggregate-level indicator), and $\bar{w} = 1$ for the opposite case.

Given the large number of cross-sectional units, estimating the city-specific effects (a_i) separately is difficult. I therefore estimate 1 in first-differences¹⁶:

$$\Delta y_{it} = b_1 * \Delta y_{it-1} + b_2 * \Delta y_{it-2} + \sum_k c_k * \Delta x_{k,it} + d * \Delta elec dum_t + u_{it} \quad (5)$$

where

$$u_{it} = \Delta \varepsilon_{it}$$

Regression (5) is affected by a familiar endogeneity problem: the error term now includes $\varepsilon_{i,t-1}$ which is correlated with Δy_{t-1} and some x_{it} (specifically

¹⁶A fixed-effects estimator is not appropriate, as it would yield biased estimates given the presence of autoregressive terms in the specification. While lags of the endogenous variables can be used as instruments in the first-differences specification to address this problem, the same is not true in a fixed-effects specification.

lagged deficit and lagged debt). It also includes $\varepsilon_{i,t}$ which is correlated with some of the x_t , affected by contemporaneous fiscal policy. To address this problem, I estimate 5 by GMM, using $y_{i,t-s-1}$ and $y_{i,t-s-2}$ to instrument the $\Delta y_{i,t-s}$, and $x_{i,t-1}$ and $x_{i,t-2}$ to instrument the $\Delta x_{i,t}$ ¹⁷. Under the sequential moment conditions 2 through 4 these instruments are orthogonal to the innovations. Regressions are weighted by the total size of the budget, to give more importance to larger districts. The reason is that in smaller units electoral fiscal choices may be more affected by the logic of clientelism and corruption than the logic of signaling.

4.3 Regression results

Results for the political dummy in which we are interested, d , are presented in Tables 3 and 4.¹⁸ In these tables, each of columns (1) through (4) represents a different set of controls, as detailed in Table 2. Each row corresponds to a different regression, and the dependent variable for that regression is recorded in the first column. Throughout the paper, results in bold letters are significant at the 5% level, while results in bold and italics are significant at 10%. Dependent variables are expressed in logs.

I run two versions of equation (5). Table 3 presents results for the first of those versions, where $y_{i,t}$ corresponds to the share of total expenditure represented by a specific type of spending. For instance, the first row reports

¹⁷The most widely used methodology is the one suggested by Arellano and Bond (1991). The main difference with respect to the approach I use is that I do not treat each period as a separate equation. There are two reasons why I do not use their approach. First, with the relatively large numbers of periods (15) and endogenous variables (up to 5) in my estimations, the Arellano-Bond estimation contains more than 60 instruments, even if we only use two lags as instruments for each period. Besides being computationally consuming, GMM estimators with such a large number of overidentifying restrictions are known to have poor finite sample properties (see Wooldridge, 2002, for a discussion). Second, I believe larger districts should be given more weight in my estimations. The use of weighted regression in the Arellano-Bond approach is still not standard. The basic results I highlight here are, however, robust to the use of Arellano-Bond techniques (with unweighted regressions), although the set of instruments does not perform as well as under the methodology I use. As an example, I report results from Arellano-Bond estimation for one of my specifications in the Appendix. A complete set of results with this approach is available from the author upon request.

¹⁸To facilitate reading, estimates for other coefficients are not reported, but some additional results are reported in Tables A1 and A3, and the rest are available from the author upon request.

the estimate of d when the dependent variable is current expenditure as a share of total expenditure. This is motivated by theoretical models that, as mentioned, suggest pre-electoral changes in the composition of the budget.

Results point to a change in the composition of expenditure away from current expenditures and into capital spending. The categories of investment associated with most visible infrastructure projects, namely construction of roads, infrastructure, and water, power, and communications, all show pre-electoral expansions. These are significant, both statistically and economically; for instance, the share of expenditure dedicated to infrastructure development grows by around 40% prior to elections. Other categories of investment, more related to the provision of universal (as opposed to targeted) goods, as health and education, do not show similar pre-electoral cycles. At the same time, there is a reduction of the share of resources dedicated to servicing the debt, as well as a contraction of current spending. The latter can be attributed to a decrease in the share of the budget represented by current transfers¹⁹, in particular the subcategory of transfers to retired employees, and the share represented by payments to temporary workers (a subcategory of Personnel). These findings are consistent with an opportunistic pre-electoral expansion of targeted expenditures.

Although the choice of instruments is greatly restricted by data availability, the set of instruments performs well. The relevance of the instruments should not be of much concern, since most of these variables exhibit persistence.²⁰ Sargan test statistics in general do not reject the null hypothesis that the instruments are not correlated with the error term (see Table A1), thus supporting the validity of instruments. Estimation residuals u_{it} present autocorrelation of first, but not second order, thus supporting the hypothesis that the ε_{it} are not autocorrelated. Sargan test statistics, numbers of observations, and estimates on the autoregressive terms are presented in Table A1.

In terms of the robustness of results, note that they are consistent across

¹⁹This may seem puzzling, since the theoretical literature frequently refers to targeted expenditures as *transfers* to the targeted groups. However, the reader should not confuse these with “*Current Transfers*”, as defined in the Colombian government accounts. These cover benefits to retired and temporary employees, and transfers to other levels of government. None of these is likely to constitute a group of voters worthy of pre-electoral targeting.

²⁰Regressions of most endogenous variables on the sets of instruments yield R-squared close to 0.3

sets of controls. They are also robust to changes in the sample, both in terms of periods and districts covered. The same pattern of electoral effects also arises with an Arellano-Bond type estimation (see Table A2), although in the latter the sizes of effects are smaller, and the contraction of current categories of spending extends to the "General" and "Personnel" categories.²¹

I repeat these regressions setting y_{it} equal to the log level of expenditure in a given category. That is, I look for effects on spending amounts, rather than shares of overall spending. Table 4 presents the results of this approach. As in Table 3, spending on total investment, infrastructure, power, and roads all show pre-electoral increases. The levels of current transfers, payments to temporary workers and debt service, meanwhile, contract. These effects are large in size. For instance, investment expands about 10% before elections, while transfers contract by close to 30% and interest payments by 10%. An interesting result from these regressions is that payments to personnel increase by about 8% prior to elections²². The level of education expenditure also increases significantly before elections. Sargan test statistics, numbers of observations, and estimates on the autoregressive terms are presented in Table A3.

In sum, the results indicate a pre-election shift of government resources from some categories of current spending into investment types of expenditures. This is consistent with the view that incumbents try to obtain voters' support by increasing the provision of goods that are most valuable and/or visible to them, while trying to limit the impact of these actions on the overall budget²³. Is this strategy optimal to tilt election outcomes in favor of the incumbent? Trying to answer this question I now examine some empirical

²¹As highlighted in a footnote above, these results must be taken with more caution, as the set of instruments is perhaps too large, and is not validated by Sargan tests.

²²This result is driven by payments to permanent personnel ("permanent" in the sense of having a long term contract). The finding of a pre-electoral expansion of this type of spending would be consistent with the widespread idea that politicians in Colombia trade government jobs in exchange for political support. If this is indeed driving the results, the suggestion is that these hirings are done through long term contracts, which explains why they could be interpreted as credible commitments by the incumbent.

²³Models of electoral composition effects make no prediction regarding total expenditure; the effect of elections on total spending is simply the sum of what happens to individual categories. It is worth mentioning, however, that by estimating 5 with y equal to the log of total expenditure, one obtains a small positive pre-electoral effect. In specifications (1) and (3) it is statistically significant, but only around 3%. Moreover, in specifications 2 and 4 it is not even statistically significant.

evidence on the link between the government’s budget and election outcomes.

5 Do voters reward targeted spending?

The implicit foundation for the view that officials manipulate fiscal policy before elections is that voters’ support for the incumbent is affected by his previous fiscal choices. The models presented in Drazen and Eslava (2004a, 2004b) suggest that a voter reacts favorably to increases in types of spending he cares most about, even if he dislikes incumbents who run deficits²⁴. In Rogoff’s (1990) model, an incumbent’s share of votes depends positively on the provision of goods visible to voter, which they associate with higher competence. Two obvious questions come to mind. Does recent fiscal policy indeed affect the choices of voters? If so, what are the directions of those effects? I devote this section to answering these questions.

5.1 Data

As argued before, the relevant definition of “incumbent” for the Colombian case is the incumbent *party*, since officials cannot run for direct re-election. I therefore use data on the share of votes obtained by each party in the local mayor elections of 1992-2000 (four elections). Unfortunately, for previous elections only the share of votes obtained by the winner of the election is available, so that full party shares cannot be calculated²⁵.

Politics in Colombia have been traditionally dominated by two major parties, Liberal and Conservative. While some candidates, particularly in the 1990’s, ran under the banner of a myriad of different parties or *political movements*, many of these movements can be traced back to the traditional parties, and voters in each locality are frequently aware of those ties²⁶. In

²⁴Models of competence inference (e.g. Rogoff 1990 and Shi and Svensson 2001) may also be consistent with voters punishing high deficits, under the assumption that at least some voters observe the overall budget. Informed voters associate higher deficits, for any given level of spending, with lower competence of the incumbent.

²⁵It is often the case that several candidates run for the same party, so that the votes received by one candidate cannot be assumed to equal the votes received by his party in that election. As a result, the pre-1992 data cannot be used for our purposes.

²⁶There are two reasons why candidates prefer to run for movements linked to the parties, rather than the parties themselves. The first is that by creating a new group they

that sense, elections are still mainly a contest between these two major parties, although there are also two smaller left-wing parties and some truly independent political groups.

The challenge is to identify in the data which candidates are associated with one of the major parties, in order to calculate the appropriate shares of party votes. I use information from external sources, including informal accounts, to match the different movements with the traditional party division between liberals and conservatives. The appendix contains a list of movements and parties that I have been able to match with the larger parties. All movements not listed in the appendix are considered “independents” in my analysis.

I calculate the share of votes obtained by, for instance, the Liberal party, as the sum of the shares obtained by all the smaller organizations linked to the Liberal party in that list. Since some apparently independent groups may indeed also be Liberal or Conservative, even if I am not able to identify them as such, the share of votes my calculations assign to a given major party is frequently (more than 25% of observations) equal to zero. I treat those zero vote shares as missing values, since I suspect that most of these cases do not reflect that a major party did not present any candidate, but rather that I cannot tie a candidate to the party he belongs to. Table 5 presents some summary statistics; panel 1 refers to vote shares, and panel 2 to number of elections won. Columns (1) and (2) record statistics for the Liberal and Conservative party, respectively, while column (3) shows statistics for the predominant party in each election (between conservatives and liberals). Figures in column (4) correspond to the winning *candidate*. The high mean value of these shares results because the candidate of the least favored party is more likely to run under an alternative banner, so that it is easier to tie a candidate to his major party when he receives a large vote share.²⁷ The predominance of the two parties is confirmed by the fact that, out of 3880 total elections, 2661 are won by a candidate that I can tie to one of these parties. Votes to the predominant party tend to exceed those

can access funding that is available for each political organization in the race. The second is that voters have grown suspicious of the political practices (not necessarily the ideals) of the traditional parties. Candidates try to avoid being associated with those practices by running outside the structure of the party.

²⁷If I do not interpret the zero vote shares as missing values, therefore taking into account those less favored candidates, the mean share for liberals and conservatives are 40% and 31%, respectively.

obtained by the winning candidate, since often more than one candidate runs for each party.

5.2 The effect of fiscal policy on vote shares

I study here the relation between the share of total votes obtained by each of the two major parties and pre-electoral fiscal policy. As in previous studies, the effect of the overall budget is captured by the government's deficits. However, I have already highlighted that some theoretical models suggest that voters see targeted expenditures with a different eye than they see the rest of spending. I therefore attempt to distinguish the effects of different spending categories. Following the previous discussion, I treat investment spending as targeted expenditure, and current spending as non-targeted expenditure. I run a regression of the following form:

$$\begin{aligned} votes_{pit} = & \alpha_0 + \alpha_1 votes_{pit-1} \\ & + (\alpha_2 invest_{it} + \alpha_3 current_{it} + \alpha_4 deficit_{it} + \alpha_5 gr_{it}) * inc_{pit-1} + v_{itp} \end{aligned} \quad (6)$$

The time indices here refer to election periods, so that t is the current election and $t - 1$ the previous election. $votes_{pit}$ is the share (in percentages) of votes obtained by party p in city i during the t election. Vote shares are modeled as a function of the interaction between fiscal variables and the discrete variable inc_{pit-1} , which takes the value of 1 if party p is in office at the time of the election and -1 otherwise²⁸. The fiscal variables correspond to the pre-election year; I include the log of investment spending ($invest_{it}$), the log of current spending ($current_{it}$), and the per capita government deficit ($deficit_{it}$). Average GDP growth between $t - 1$ and t (gr_{it}) is also considered to control for other observables that may affect voters' perceptions about the incumbent.

Under the assumption that v_{itp} captures the part of voting behavior that the politician cannot predict, fiscal policy decisions cannot be based on those innovations, and the policy variables included in the regression should satisfy the restriction of being orthogonal to the error term. Assuming that there are no components of v_{it} that affect the incumbent's fiscal choices may indeed be strong, but data restrictions make addressing these concerns a quite difficult task, beyond the reach of this paper.

²⁸Results are robust to using a 1, 0 dummy rather than this 1, -1 version.

Results are reported in Table 6; column (1) reports estimates of (6), while column (2) reports results of a slightly modified version that includes party/state effects²⁹. The dependent variable is expressed as percentages, while spending measures (investment and current expenditure) are logs of per capita levels of spending. Column (3) reports results of specification (6), but the spending variable *invest* is measured as a fraction of total spending (in this case, the corresponding fraction for current spending is not included in the specification due to concerns about collinearity of the regressors). Robust standard errors are reported below the point estimates.

As previous studies have found for other countries (e.g. Brender, 2003, for Israel, and Peltzman, 1992, for the US), and contrary to interpretations implicit in most of the empirical PBC literature, results indicate that Colombian voters penalize the incumbent party for running high deficits. Furthermore, high capital expenditures (interpreted here as targeted spending) increase the share of votes obtained by the incumbent party, while current (“non-targeted”) expenditure has no significant effect³⁰. From column (1), a ten percent increase in per capita investment increases the fraction of votes obtained by the incumbent party by about 0.3%, while a two standard deviation increase in the deficit per capita decreases the share of votes to the incumbent party by close to 3.2%. These results are consistent with the view that voters dislike incumbents who run high deficits, while they value specific types of expenditures. They are also consistent with the results on electoral changes in the composition of spending discussed above, that show incumbents increasing targeted spending before the elections, while they try to avoid concomitant increases in the overall budget. According to findings in this section, this fiscal strategy is optimal in terms of maximizing the share of votes that go to the incumbent party in the upcoming election.

Some summary statistics on projected voted shares are presented in Table 7. As discussed above, the high mean values for vote shares (both above 50% in Table 8) are due to the high frequency of missing values for the vote shares of one or other party, more prevalent in districts where the party is not dominant. The projected vote shares exhibit less dispersion than the actual shares. For each party, the projected share is positively correlated

²⁹ A full fixed-effects version cannot be used due to restrictions of the voting shares data: for most localities we have no more than 1 usable observation.

³⁰ GDP growth does not have any significant effect. This result is not surprising since my measure of GDP is at the state level. Voters probably do not “blame” the local mayor for the state economy’s performance.

with the actual share, and negatively correlated with the actual share for the other party.

6 Electoral cycles in the central government's budget

Although I have argued that electoral cycles derived from the targeting of expenditures are most relevant at the local level, where targeting is most efficient, this phenomenon is no stranger to national level politics. In fact, the idea of pork projects is often associated by the public with Congress politics. One question is, therefore, whether we also observe this type of effect at the national level. In this section, I take an exploratory look at that question, focusing on the dynamics of some components of the Colombian central government's budget.

One problem for this exploration is the short length of the official quarterly time series on fiscal policy, which begins in 1988. I gathered information to extend those series, from the official printed reports of the *Contraloría General* on the finances of the government³¹. The resulting data are quarterly frequency, and cover the 1974.1-2000.1 period. The level of disaggregation is not as detailed as for the local data, but I can distinguish current from investment spending, and two subcomponents of current spending: transfers and personnel. The denomination transfers, again, refers to *current* transfers, not the transfers from the central level to the local governments, which are actually recorded as a part of investment. I therefore still regard transfers as a non-targeted type of spending.

Elections occur at predetermined dates, every four years. Presidential and Congressional elections are almost simultaneous (a two-month period separates them), so I do not attempt to separate the effect of Congressional elections from that of a Presidential election. As controls, I use information on unemployment, GDP and per capita GDP. Sources, definitions, and the dates of presidential elections within the period are listed in the appendix.

I run a regression of the form:

³¹The Contraloría General is the same source I use for local fiscal data. It is the entity that monitors the government's financial statements. More details on the construction of national level fiscal variables are provided in the appendix.

$$y_t = \sum_{l=1}^L b_l * y_{t-l} + c * x_{t-1} + d * elec dum_t + \varepsilon_t \quad (7)$$

where y_t is the growth rate of some type of government spending between $t-1$ and t , and x_{t-1} is a control equal to the growth of either unemployment, GDP, or per capita GDP, all in the previous period. $elec dum_t$ is the pre-election dummy, which in this case takes the value of 1 in the two quarters prior to President elections (which are also the quarter of Congress elections and the preceding one), 0 in all others. I use L lags of the dependent variable, where L is optimally chosen following the Akaike criterion.

The results of this estimation are presented in Table 8. The table only shows the estimates for the electoral effect (d), and follows the same conventions used in all other tables. Each column corresponds to a different control (unemployment, GDP, and per capita GDP for columns 1, 2, and 3 respectively). Robust standard errors are reported below the point estimates.

I obtain results that are broadly consistent with those observed for the local level. The sign of the electoral effect is always negative for transfers and current spending, and positive for investment. However, while the effect on investment is always significant, the negative effect on current types of spending is significant only when controlling for unemployment.

I consider these results as indicative that the suggested pre-electoral changes in the composition of government spending occur also at the national level. One interesting extension of these results would be to examine the allocation of pre-electoral payments to the local governments (registered under the investment heading), and relate these to the level of electoral polarization that characterizes different districts. At this point, however, the data on regional allocations of central government expenditures are not readily available.

7 Concluding remarks

This paper tries to offer a more comprehensive view of electoral cycles in government spending, integrating the pre-electoral fiscal choices of incumbents with the impact of those choices on election outcomes. The picture that emerges is one where voters punish the pre-electoral deterioration of fiscal balances but reward incumbents who, before the election, increase the

provision of goods most valuable to voters. In terms of maximizing his probability of being re-elected, therefore, an incumbent's optimal strategy implies simultaneously increasing spending on those goods favored by voters and contracting other types of spending. In the Colombian case, this is reflected in pre-electoral shifts of resources away from current spending and into the development of infrastructure-related projects.

The evidence presented here shows that there is a logic to apparently contradictory pieces of previous evidence, which showed certain types of government spending growing before elections despite voters' inclination to replace incumbents that chose high spending. It also suggests that the traditional view that incumbents have incentives to increase spending when elections approach does not apply generally, even within the group of developing economies, which are frequently seen as the mecca of political budget cycles. On the contrary, this evidence is consistent with models that picture the political budget cycle as electoral manipulation of the composition, rather than the size of the budget. In the same vein, it is also consistent with the argument that voters favor specific types of goods, and incumbents attempt to influence electoral results by spending on those goods.

An interesting question that is left open is to what extent the greater susceptibility of specific types of spending to electoral manipulation reflects heterogeneous preferences of voters and politicians, as opposed to different degrees of visibility of public goods. In simpler, although inexact, words, is the PBC more a reflection of *pork* politics, or competence signaling? Is it perhaps even a reflection of incumbents pre-paying important campaign contributors, rather than really trying to influence voters? The answer to this question requires a different kind of data and empirical strategy, possibly differentiating electoral transfers to specific groups of voters or contributors, and is part of a future research agenda.

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9 Appendix

9.1 Data for local level estimations

Population, and the UBN indicator were provided by the University of Los Andes' CEDE. State per capita GDP data are from DANE (the Colombian Bureau of Statistics). Also, GDP for “new” states ³² is only reported since 1995. Previously, only the sum for all new states was reported. I impute pre-1995 GDP for these new states by keeping the contribution of each state to total new-states-GDP constant in its 1994-1996 level. The Unsatisfied Basic Needs indicator (UBN) summarizes the fraction of households without proper housing (in terms of number of rooms and construction materials), without sanitary services, with school-less children, or with a single low income for more than three people. This poverty indicator is commonly used with local-level data, because at this level income measures needed to construct other poverty indicators are not available.

Debt in specification (3) (Table 2) corresponds to the sum of all deficits incurred by the city since 1984 until December of $t - 1$. Deficit (specification (2)) is the deficit at the end of the previous year. To construct the fiscal dependence indicator, I first calculate the average share of total revenue that is represented by transfers of revenue from other levels of government. I use the average over all regional units, because the decentralization effect I try to account for is a process dictated by national law. Let this average for year t be denoted as f_t . The Fiscal Dependence index used in the regressions is calculated as:

$$FD_t = \ln(f_t) - \ln\left(\sum_{t=1984}^{2001} \frac{f_t}{T}\right)$$

where T is the total number of years. The FD_t index is therefore close to 0 in years of intermediate decentralization, positive in years of higher decentralization, and negative in years of lower decentralization. In the regressions, I interact FD_t with the trend variable, to differentiate the trend effects related to the process of fiscal decentralization from any other trend effects.

For the pre-1997 elections, I use electoral results recorded in the National

³²There is a subset of nine states that were only elevated to the state category in 1991. They were previously in a different, now disappeared, category of the regional classification. These are what I call “new” states.

Planning Department Databases, while for 1997 and 2000 I use official results directly provided by the *Registraduría Nacional*.

9.2 Data for national level estimations

National level fiscal data were taken from several issues of the *Revista Informe Financiero* of the *Contraloría General*. I use the figures for “Agreements”, which correspond to payments the government is committed to make in the period. To make the investment series consistent over time, the contributions of the central level to the local governments were always included in the definition of investment. Similarly, the definition of current transfers always includes “operation contributions”.

The unemployment rate series is from DANE (the National Bureau of Statistics). The original series has missing values for 78.2, 78.4, and 80.2, which I filled using the average of adjacent quarters. GDP is only available for 1977.1-1999.4, and no unique quarterly series covers the whole period; for 1977-1995 there is a series from the National Planning Department, while DANE has been in charge of reporting quarterly GDP since 1994. Following a practice that has become standard when working with Colombian data I construct a unique series from the two by seasonally adjusting the pre-94 series to make it compatible with the DANE series, and then using growth rates from one to extend the other.

9.3 Other results from estimating equation 5

Table A1 presents results on autoregressive terms, as well as Sargan test statistics and numbers of observations, for the regressions first introduced in Table 3. Tables A2 and A3 present results of Arellano Bond estimations.

9.4 Electoral dates, and matching political movements and the main parties

The first mayor elections are in March 1988. Before 1994, local elections occurred every two years, but the frequency has been extended to three years since then. Table A4 lists years of mayor elections.

Presidential elections every four years at predetermined dates. Table A5. lists the elections that occur within the period covered by the aggregate fiscal data.

I use information in Pachón (2002), as well as informal consultations, to link some movements to the traditional parties. I also consider as liberal (conservative) a movement with the word “Liberal” (“Conservative”) in its name. Table A6 lists the matches obtained (the left column lists the name of the party as it appears in the official records of election results).

Table 1. Summary statistics for different types of expenditure

Type of Expenditure	Periods	Number of obs.	Mean	Standard deviation
Total Expenditure	All	12.335	56.458	611.226
	Pre-electoral	5.294	53.445	586.009
	No pre-electoral	7.041	58.722	629.552
1. Current Expenditure	All	12.334	19.856	185.433
	Pre-electoral	5.293	18.521	176.970
	No pre-electoral	7.041	20.859	191.555
1.1. General Payments	All	12.265	4.068	21.005
	Pre-electoral	5.244	3.851	21.914
	No pre-electoral	7.021	4.231	20.300
1.2. Personnel Exp.	All	12.266	9.759	82.677
	Pre-electoral	5.245	9.195	80.810
	No pre-electoral	7.021	10.181	84.049
1.3. Current Transfers	All	12.247	5.895	91.341
	Pre-electoral	5.234	5.069	78.904
	No pre-electoral	7.013	6.511	99.618
2. Investment	All	12.335	30.129	382.126
	Pre-electoral	5.294	29.162	365.423
	No pre-electoral	7.041	30.855	394.242
2.1. Infrastructure	All	5.276	3.173	8.252
	Pre-electoral	2.007	3.523	7.372
	No pre-electoral	3.269	2.959	8.743
2.2. Water, Energy, and Communications	All	5.571	3.707	6.166
	Pre-electoral	2.113	4.270	7.101
	No pre-electoral	3.458	3.364	5.490
2.3. Housing	All	7.365	761	4.069
	Pre-electoral	2.797	881	4.619
	No pre-electoral	4.568	687	3.691
2.4. Education	All	7.469	3.615	5.523
	Pre-electoral	2.843	3.879	5.824
	No pre-electoral	4.626	3.453	5.324
2.5. Health	All	7.469	2.710	5.007
	Pre-electoral	2.843	2.932	5.260
	No pre-electoral	4.626	2.574	4.840
2.6. Other				
3. Debt service	All	12.186	6.554	70.578
	Pre-electoral	5.224	5.843	66.884
	No pre-electoral	6.962	7.087	73.227

Table 2. List of control variables

Control	Specification			
	1	2	3	4
T(t)	x	x	x	x
y(i,t-1)	x	x	x	x
log_GDP_PC(i,t-1)	x	x	x	x
log_UBN(i,t-1)	x	x	x	x
log_POPULATION(i,t-1)	x	x	x	x
DEFICIT(i,t-1)		x		x
DEBT_84(i,t-1)			x	
T*FISCAL_DEP(t)		x	x	x
VOTE SHARE(i, prev.elect)				x

Table 3.
Effect of elections on the composition of total expenditure (shares)

Dependent Variable: Type of expenditure	1	2	3	4
1. Current Expenditure	-0.088 (0.013)	-0.081 (0.016)	-0.070 (0.019)	-0.079 (0.015)
1.1. General Payments	-0.041 (0.031)	-0.001 (0.043)	0.006 (0.045)	0.016 (0.051)
1.2. Personnel Expenditure	0.038 (0.018)	0.037 (0.032)	0.061 (0.028)	0.038 (0.035)
1.2.1 Personnel Temporary	-0.466 (0.282)	-0.319 (0.159)	-0.206 (0.146)	-0.321 (0.160)
1.3. Current Transfers	-0.286 (0.060)	-0.444 (0.070)	-0.356 (0.070)	-0.418 (0.082)
1.3.1 Transfers to retired workers	-0.978 (0.508)	-0.849 (0.403)	-1.501 (0.591)	-0.688 (0.364)
1.3.2. Other Transfers	-0.060 (0.118)	0.277 (0.162)	0.183 (0.147)	0.347 (0.163)
2. Investment	0.106 (0.019)	0.075 (0.025)	0.081 (0.022)	0.080 (0.025)
2.1. Infrastructure	0.421 (0.087)	0.413 (0.097)	0.382 (0.107)	0.361 (0.117)
2.1.1. Roads	0.401 (0.065)	0.377 (0.074)	0.394 (0.066)	0.350 (0.085)
2.2. Water, Energy, and Com.	0.187 (0.074)	0.138 (0.081)	0.142 (0.074)	0.166 (0.086)
2.3. Housing	0.032 (0.201)	-0.076 (0.224)	-0.006 (0.222)	0.304 (0.195)
2.4. Education	0.037 (0.034)	0.004 (0.046)	0.003 (0.040)	0.018 (0.046)
2.5. Health	0.018 (0.067)	0.012 (0.069)	-0.019 (0.062)	0.047 (0.065)
3. Debt Service	-0.104 (0.037)	-0.121 (0.046)	-0.102 (0.043)	-0.123 (0.054)

This is a GMM estimation of equation 5. Standard errors in parenthesis.

Estimate is significant at 5% level if in bold characters, at 10% if in bold and italics.

Each row corresponds to a different regression, where the dependent variable is the share of total expenditure represented by a given category.

Each column corresponds to a different set of controls, as detailed in table 2

Table 4.
Effect of elections on different types of expenditure (levels)

Dependent Variable: Type of expenditure	1	2	3	4
1. Current Expenditure	-0.024 (0.024)	-0.033 (0.018)	-0.011 (0.019)	-0.041 (0.023)
1.1. General Payments	0.037 (0.027)	0.025 (0.043)	0.031 (0.041)	0.032 (0.051)
1.2. Personnel Expenditure	0.071 (0.012)	0.082 (0.020)	0.087 (0.019)	0.084 (0.022)
1.2.1 Personnel Temporary	-0.546 (0.252)	-0.371 (0.106)	-0.303 (0.100)	-0.369 (0.109)
1.3. Current Transfers	-0.222 (0.082)	-0.369 (0.101)	-0.270 (0.078)	-0.332 (0.123)
1.3.1 Transfers to retired workers	-0.977 (0.470)	-0.826 (0.437)	-1.236 (0.575)	-0.659 (0.396)
1.3.2. Other Transfers	0.043 (0.125)	0.324 (0.159)	0.247 (0.150)	0.398 (0.162)
2. Investment	0.142 (0.025)	0.126 (0.027)	0.144 (0.028)	0.122 (0.028)
2.1. Infrastructure	0.436 (0.072)	0.452 (0.077)	0.507 (0.098)	0.376 (0.083)
2.1.1. Roads	0.365 (0.069)	0.392 (0.076)	0.412 (0.074)	0.318 (0.078)
2.2. Water, Energy, and Com.	0.219 (0.065)	0.168 (0.072)	0.193 (0.077)	0.177 (0.075)
2.3. Housing	0.124 (0.207)	0.028 (0.232)	0.100 (0.228)	0.432 (0.212)
2.4. Education	0.110 (0.027)	0.083 (0.032)	0.090 (0.032)	0.090 (0.034)
2.5. Health	0.084 (0.054)	0.097 (0.064)	0.079 (0.061)	0.128 (0.070)
3. Debt Service	-0.053 (0.031)	-0.082 (0.036)	-0.104 (0.038)	-0.090 (0.036)

This is a GMM estimation of equation 5. Standard errors in parenthesis.

Estimate is significant at 5% level if in bold characters, at 10% if in bold and italics.

Each row corresponds to a different regression, where the dependent variable is the level of expenditure in each category.

Each column corresponds to a different set of controls, as detailed in table 2

Table 5. Summary statistics for election outcomes

		Party			
		1	2	3	4
		Liberal	Conservative	Max(lib,cons)	Max (candidates)
Panel 1: vote shares	Mean	60.74	57.36	70.06	56.91
	Median	57.52	54.22	71.80	53.68
	25 percentile	39.08	34.47	45.11	48.28
	75 percentile	93.22	92.23	96.92	62.45
	Maximum	100	100	100	100
	Minimum	0.05	0.07	0.09	20.39
	Wins	1650	1230		
Panel 2: elections won	Wins running within the party	1597	1064		
	Wins running for associated movement	53	166		

Table 6. Effect of fiscal performance on vote shares

Dependent Variable: Votes to party P		Expenditure variables in per capita terms		Investment as share of total
Regressor		1	2	3
Constant		32.801 (1.606)	-	31.412 (1.702)
Votes to P in past election		0.485 (0.026)	0.384 (0.026)	0.512 (0.026)
Deficit * incumbent		-0.023 (0.009)	-0.023 (0.010)	-0.016 (0.010)
Investment Expenditure *incumbent		2.757 (0.805)	1.734 (0.689)	5.313 (1.614)
Current Expenditure *incumbent		1.312 (0.787)	-0.928 (0.602)	-
GDP growth*incumbent		-6.464 (16.070)	18.572 (13.856)	1.368 (16.562)
Observations		2032	2032	2032
R-square		0.222	0.187	0.222

Notes: this table presents the results of estimating equation 6

Bold characters denote significance at 5%. Bold and italics denote significance at 10%.

Robust standard errors in parentheses

Columns 1 and 3 report Pooled OLS results, Column 2 reports OLS results with state/party effects

Incumbent is 1 if party P is in power at the time of the election, 0 otherwise

Table 7. Summary statistics for fitted vote shares

	Mean	Std Dev	Minimum	Maximum
Projected vote share Liberal party	62.881	15.076	32.534	81.459
Projected vote share Conservative party	60.976	15.599	32.632	81.502
Sample Correlations				
	Projected vote share Liberal party	Actual vote share Liberal party	Projected vote share Cons. party	Actual vote share Cons. party
Projected vote share Liberal party	1	0.416	-0.624	-0.209
Actual vote share Liberal party		1	-0.212	-0.581
Projected vote share Conservative party			1	0.510
Actual vote share Conservative party				1

Table 8.
Effect of elections on different types of expenditure. Central Government

Dependent variable: Type of expenditure	Electoral effect (coefficient <i>d</i>)		
	(1)	(2)	(3)
Total Expenditure	0.068 (0.105)	0.149 (0.102)	0.148 (0.102)
1. Current Expenditure	-0.846 (0.103)	-1.543 (1.018)	-1.561 (1.020)
1.2. Personnel Expenditure	0.048 (0.059)	0.058 (0.061)	0.053 (0.061)
1.3. Current Transfers	-0.647 (0.105)	-0.052 (0.134)	-0.049 (0.133)
2. Investment	0.563 (0.262)	0.849 (0.275)	0.843 (0.275)

Notes: This table presents estimates for coefficient *d* in regression 7.

Estimation is done by OLS. Robust standard errors in parentheses.

Bold characters denote significance at 5%. Bold and italics denote significance at 10%.

Each row corresponds to a different regression, where the dependent variable is a given type of government expenditure.

A different control in each: unemployment rate (1), GDP (2), per capita GDP (3)

Table A1. Other results from regression on the effect of elections on different types of expenditure (shares). Complementary to Table 3.

Dependent Variable: Type of expenditure																
	1				2				3				4			
	AR1	AR2	Sargan	Obs	AR1	AR2	Sargan	Obs	AR1	AR2	Sargan	Obs	AR1	AR2	Sargan	Obs
1. Current Expenditure	0.071 (0.067)	0.025 (0.042)	19.699 (8)	9077	0.105 (0.085)	0.026 (0.052)	21.773 (6)	9077	0.192 (0.091)	0.077 (0.049)	20.545 (6)	9077	0.163 (0.086)	0.086 (0.059)	16.446 (6)	6924
1.1. General Payments	0.097 (0.063)	-0.001 (0.046)	13.135 (8)	* 7046	0.111 (0.059)	0.030 (0.066)	12.144 (6)	* 7046	0.224 (0.077)	0.060 (0.072)	9.683 (6)	* 7046	0.107 (0.074)	0.028 (0.079)	14.530 (6)	6724
1.2. Personnel Expenditure	0.303 (0.099)	-0.023 (0.054)	21.858 (8)	7119	0.384 (0.189)	0.077 (0.075)	11.985 (6)	* 7119	0.691 (0.187)	0.185 (0.081)	9.243 (6)	* 7119	0.224 (0.214)	0.028 (0.088)	10.581 (6)	* 6794
1.2.1 Personnel Temporary	-0.012 (0.114)	0.056 (0.126)	10.185 (8)	* 630	-0.050 (0.123)	-0.006 (0.140)	8.490 (6)	* 630	-0.050 (0.112)	-0.002 (0.128)	8.324 (6)	* 630	-0.071 (0.126)	-0.015 (0.144)	8.508 (6)	* 591
1.3. Current Transfers	0.189 (0.174)	0.043 (0.064)	29.309 (8)	6030	0.398 (0.227)	-0.033 (0.079)	13.571 (6)	6030	-0.265 (0.154)	-0.153 (0.057)	35.684 (6)	6030	0.422 (0.219)	-0.014 (0.077)	17.490 (6)	5786
1.3.1 Transfers to retired workers	0.896 (0.467)	0.269 (0.223)	9.755 (8)	* 216	0.358 (0.355)	0.203 (0.214)	9.255 (6)	* 216	1.033 (0.428)	0.556 (0.216)	9.010 (6)	* 216	0.181 (0.315)	0.145 (0.213)	9.580 (6)	* 200
1.3.2. Other Transfers	-0.021 (0.066)	-0.086 (0.080)	5.678 (8)	* 2989	0.105 (0.088)	-0.090 (0.087)	4.885 (6)	* 2989	0.001 (0.096)	-0.146 (0.092)	5.426 (6)	* 2989	0.072 (0.081)	-0.118 (0.088)	4.035 (6)	* 2901
2. Investment	0.325 (0.067)	0.067 (0.033)	11.945 (8)	* 6799	0.361 (0.079)	0.090 (0.046)	2.844 (6)	* 6799	0.389 (0.069)	0.105 (0.039)	5.329 (6)	* 6799	0.342 (0.087)	0.089 (0.050)	2.352 (6)	* 6484
2.1. Infrastructure	0.028 (0.080)	0.017 (0.072)	8.207 (8)	* 1214	0.049 (0.084)	0.035 (0.084)	5.399 (6)	* 1214	0.032 (0.128)	0.022 (0.072)	5.302 (6)	* 1214	0.007 (0.080)	0.001 (0.087)	5.795 (6)	* 1135
2.1.1 Roads	-0.139 (0.077)	-0.060 (0.048)	15.340 (8)	* 1494	-0.050 (0.077)	-0.023 (0.055)	6.721 (6)	* 1494	-0.109 (0.077)	-0.036 (0.049)	12.965 (6)	1494	-0.094 (0.076)	-0.059 (0.057)	7.790 (6)	* 1394
2.2. Water, Energy, and Com.	-0.038 (0.077)	-0.076 (0.061)	8.323 (8)	* 1270	0.012 (0.083)	-0.037 (0.061)	5.535 (6)	* 1270	0.000 (0.078)	-0.066 (0.055)	4.596 (6)	* 1270	-0.006 (0.087)	-0.028 (0.060)	6.069 (6)	* 1185
2.3. Housing	0.128 (0.106)	-0.086 (0.062)	2.075 (8)	* 631	0.082 (0.115)	-0.071 (0.074)	1.422 (6)	* 631	0.108 (0.111)	-0.100 (0.068)	1.990 (6)	* 631	0.145 (0.126)	-0.054 (0.071)	3.169 (6)	* 586
2.4. Education	0.069 (0.109)	-0.037 (0.051)	6.463 (8)	* 1540	-0.001 (0.111)	-0.044 (0.057)	3.736 (6)	* 1540	0.003 (0.104)	-0.052 (0.052)	4.177 (6)	* 1540	-0.020 (0.135)	-0.059 (0.073)	3.349 (6)	* 1440
2.5. Health	-0.024 (0.078)	-0.094 (0.062)	10.255 (8)	* 1389	0.022 (0.083)	-0.125 (0.056)	4.185 (6)	* 1389	0.003 (0.075)	-0.076 (0.056)	3.441 (6)	* 1389	0.004 (0.082)	-0.131 (0.056)	4.800 (6)	* 1294
3. Debt Service	0.268 (0.072)	0.117 (0.042)	9.647 (8)	* 3065	0.252 (0.076)	0.113 (0.041)	9.948 (6)	* 3065	0.284 (0.081)	0.121 (0.044)	10.320 (6)	* 3065	0.221 (0.083)	0.107 (0.044)	8.256 (6)	* 2889

This is a GMM estimation of equation 5. Standard errors and degrees of freedom for Sargan test in parenthesis.

Estimate is significant at 5% level if in bold characters, at 10% if in bold and italics.

Each row correspond to a different regression, where the dependent variable is the share of total expenditure represented by a given category.

Each numbered group of columns corresponds to a different set of controls as detailed in table 3

* H0 in Sargan test was not rejected at 5% (H0: Instruments uncorrelated with the error term)

**Table A2. Arellano Bond estimation of the
effect of elections on the composition of total expenditure (shares)**

Dependent Variable: Type of expenditure	1	2	3	4
1. Current Expenditure	-0.018 (0.005)	-0.016 (0.004)	-0.017 (0.004)	-0.005 (0.005)
1.1. General Payments	-0.027 (0.008)	-0.027 (0.008)	-0.026 (0.008)	0.001 (0.010)
1.2. Personnel Expenditure	-0.024 (0.005)	-0.016 (0.005)	-0.018 (0.005)	0.002 (0.006)
1.2.1 Personnel Temporary	-0.180 (0.290)	-0.162 (0.288)	-0.160 (0.297)	-0.004 (0.299)
1.3. Current Transfers	-0.021 (0.013)	-0.032 (0.013)	-0.031 (0.013)	-0.055 (0.016)
1.3.1 Transfers to retired workers	-0.549 (0.064)	-0.491 (0.046)	-0.506 (0.045)	-0.489 (0.054)
1.3.2. Other Transfers	0.105 (0.019)	0.140 (0.019)	0.142 (0.019)	0.150 (0.026)
2. Investment	0.046 (0.005)	0.051 (0.004)	0.051 (0.004)	0.026 (0.005)
2.1. Infrastructure	0.091 (0.027)	0.119 (0.028)	0.118 (0.028)	0.109 (0.030)
2.1.1 Roads	0.086 (0.026)	0.112 (0.027)	0.111 (0.027)	0.102 (0.028)
2.2. Water, Energy, and Com.	0.128 (0.025)	0.126 (0.024)	0.126 (0.025)	0.120 (0.026)
2.3. Housing	0.367 (0.051)	0.460 (0.053)	0.461 (0.052)	0.493 (0.053)
2.4. Education	-0.020 (0.015)	-0.053 (0.016)	-0.055 (0.015)	-0.063 (0.017)
2.5. Health	-0.044 (0.021)	-0.102 (0.022)	-0.102 (0.021)	-0.102 (0.024)
3. Debt Service	-0.135 (0.020)	-0.159 (0.018)	-0.166 (0.017)	-0.184 (0.021)

This is an Arellano Bond Estimation. Estándar errors in parenthesis

Estimation is significant at 5% level if in bold characters, at 10% if in bold and italics.

Each row correspond to a different regressiion, where the dependent variable is a given type of expenditure.

Each column corresponds to a different set of controls as detailed in table 3

Table A3. Other results from regression on the effect of elections on different types of expenditure (levels) Complementary to Table 4.

Dependent Variable: Type of expenditure																
	1				2				3				4			
	AR1	AR2	Sargan	Obs	AR1	AR2	Sargan	Obs	AR1	AR2	Sargan	Obs	AR1	AR2	Sargan	Obs
1. Current Expenditure	0.307 (0.116)	0.238 (0.062)	7.432 (8)	* 7224	0.259 (0.133)	0.197 (0.102)	8.294 (6)	* 7224	0.102 (0.109)	0.147 (0.055)	9.719 (6)	* 7224	0.186 (0.153)	0.177 (0.099)	6.745 (6)	* 6892
1.1. General Payments	0.195 (0.071)	0.148 (0.061)	11.432 (8)	* 7046	0.151 (0.071)	0.113 (0.068)	13.132 (6)	7046	0.192 (0.072)	0.114 (0.070)	11.166 (6)	* 7046	0.130 (0.070)	0.115 (0.071)	14.125 (6)	6724
1.2. Personnel Expenditure	0.636 (0.097)	0.117 (0.055)	12.441 (8)	* 7119	0.563 (0.109)	0.087 (0.053)	5.967 (6)	* 7119	0.570 (0.112)	0.106 (0.056)	6.259 (6)	* 7119	0.622 (0.116)	0.120 (0.058)	6.519 (6)	* 6794
1.2.1 Personnel Temporary	-0.116 (0.139)	-0.018 (0.142)	8.043 (8)	* 630	-0.146 (0.132)	-0.053 (0.144)	4.762 (6)	* 630	-0.040 (0.120)	0.088 (0.128)	3.618 (6)	* 630	-0.151 (0.132)	-0.048 (0.146)	5.010 (6)	* 591
1.3. Current Transfers	0.449 (0.178)	0.166 (0.071)	22.293 (8)	6030	0.405 (0.213)	0.045 (0.091)	12.798 (6)	6030	0.299 (0.192)	0.043 (0.072)	25.019 (6)	6030	0.344 (0.228)	0.049 (0.095)	12.833 (6)	5786
1.3.1 Transfers to retired workers	0.770 (0.418)	0.074 (0.210)	10.451 (8)	* 216	0.150 (0.338)	-0.005 (0.218)	9.558 (6)	* 216	0.492 (0.370)	0.154 (0.202)	11.277 (6)	* 216	0.088 (0.318)	-0.029 (0.207)	9.459 (6)	* 200
1.3.2. Other Transfers	-0.006 (0.066)	-0.079 (0.079)	5.097 (8)	* 2989	0.069 (0.081)	-0.107 (0.087)	4.657 (6)	* 2989	-0.057 (0.095)	-0.179 (0.100)	5.375 (6)	* 2989	0.035 (0.070)	-0.135 (0.089)	4.163 (6)	* 2901
2. Investment	0.251 (0.063)	0.034 (0.029)	11.791 (8)	* 6799	0.288 (0.074)	0.056 (0.038)	11.064 (6)	* 6799	0.389 (0.082)	0.103 (0.043)	7.055 (6)	6799	0.271 (0.077)	0.065 (0.044)	11.354 (6)	* 6484
2.1. Infrastructure	-0.157 (0.076)	-0.072 (0.060)	13.593 (8)	* 1214	-0.144 (0.086)	-0.050 (0.064)	9.094 (6)	* 1214	-0.218 (0.090)	-0.064 (0.069)	6.694 (6)	* 1214	-0.219 (0.076)	-0.089 (0.066)	10.473 (6)	* 1135
2.1.1 Roads	-0.114 (0.074)	-0.164 (0.057)	12.885 (8)	* 1494	-0.081 (0.083)	-0.109 (0.060)	7.437 (6)	* 1494	-0.081 (0.084)	-0.100 (0.057)	7.900 (6)	* 1494	-0.146 (0.072)	-0.154 (0.061)	7.939 (6)	* 1394
2.2. Water, Energy, and Com.	0.066 (0.101)	-0.005 (0.062)	5.461 (8)	* 1270	0.081 (0.109)	-0.005 (0.060)	5.573 (6)	* 1270	0.082 (0.115)	-0.008 (0.056)	4.399 (6)	* 1270	0.080 (0.112)	0.011 (0.064)	5.815 (6)	* 1185
2.3. Housing	0.185 (0.138)	-0.059 (0.068)	2.490 (8)	* 631	0.164 (0.146)	-0.038 (0.082)	1.669 (6)	* 631	0.182 (0.146)	-0.075 (0.072)	2.292 (6)	* 631	0.211 (0.166)	-0.023 (0.078)	3.904 (6)	* 586
2.4. Education	0.027 (0.074)	-0.003 (0.034)	12.963 (8)	* 1540	0.050 (0.083)	-0.003 (0.035)	11.178 (6)	* 1540	0.024 (0.080)	-0.005 (0.035)	11.506 (6)	* 1540	0.026 (0.083)	-0.012 (0.034)	10.441 (6)	* 1440
2.5. Health	-0.020 (0.078)	-0.041 (0.050)	15.152 (8)	* 1389	0.068 (0.097)	-0.024 (0.062)	8.251 (6)	* 1389	0.034 (0.093)	0.035 (0.060)	6.952 (6)	* 1389	0.101 (0.099)	0.011 (0.067)	8.227 (6)	* 1294
3. Debt Service	0.302 (0.060)	0.153 (0.044)	10.118 (8)	* 3065	0.334 (0.065)	0.165 (0.042)	6.518 (6)	* 3065	0.344 (0.066)	0.163 (0.042)	5.351 (6)	* 3065	0.351 (0.072)	0.175 (0.044)	6.008 (6)	* 2889

This is a GMM estimation of equation 5. Standard errors and degrees of freedom for Sargan test in parenthesis.

Estimate is significant at 5% level if in bold characters, at 10% if in bold and italics.

Each row correspond to a different regression, where the dependent variable is the level of expenditure in a given category.

Each numbered group of columns corresponds to a different set of controls as detailed in table 3

* H0 in Sargan test was not rejected at 5% (H0: Instruments uncorrelated with the error term)

Table A4.
Dates of elections for mayor

Election	elecsum=1 in:
March 1988	1987
March 1990	1989
March 1992	1991
October 1994	1994
October 1997	1997
October 2000	2000

Table A5.
Dates of elections for president

Election	elecsum=1 in:
May 1976	1975.4 and 1976.1
May 1978	1977.4 and 1978.1
May 1982	1981.4 and 1982.1
May 1986	1985.4 and 1986.1
May 1990	1989.4 and 1990.1
May 1994	1993.4 and 1994.1
May 1998	1997.4 and 1998.1
May 2002	2001.4 and 2002.1

Table A6. Party correspondences

Party or Movement	Mapping to Larger Parties
Partido Liberal Colombiano	Liberal
Alternativa Liberal	Liberal
Apertura Liberal	Liberal
Convergencia Popular	Liberal
Liberalismo Ind. De Restauración	Liberal
Movimiento Convergencia Popular Cívica	Liberal
Movimiento Independiente Liberal Mil	Liberal
Movimiento Renovador de Acción Liberal-Mor	Liberal
Nuevo Liberalismo	Liberal
Partido Conservador Colombiano	Conservative
Movimiento Conservatismo Independiente	Conservative
Movimiento de Integración Regional	Conservative
Movimiento de Participación Popular	Conservative
Movimiento Humbertista	Conservative
Movimiento Nacional Conservador	Conservative
Movimiento Único de Renovación Conservadora	Conservative
Movimiento de Salvación Nacional	Conservative
Movimiento Nueva Fuerza Democrática	Conservative
Movimiento Progresismo Democrático	Conservative
Movimiento Unionista	Conservative
Ad. M-19	M-19
Unión Patriótica UP	UP